

ABSTRACT OF THE DISCLOSURE

A system for limiting the rotational speed of a turbocharger is disclosed. The turbocharger includes a compressor having an outlet fluidly coupled to an intake manifold of an internal combustion engine and a compressor outlet, a turbine having an inlet fluidly coupled to an exhaust manifold of the engine and an outlet. A control computer is configured to compute a maximum compressor outlet pressure value as a function of the compressor inlet pressure, the compressor inlet temperature, an operating condition other than the compressor inlet pressure or temperature and a maximum allowable turbocharger speed value, and to control a turbine swallowing capacity or efficiency control mechanism in a manner that limits compressor outlet pressure to the maximum compressor outlet pressure value to thereby limit rotational speed of the turbocharger to the maximum turbocharger speed value. The operating condition may be, for example, engine intake air flow rate or engine speed.